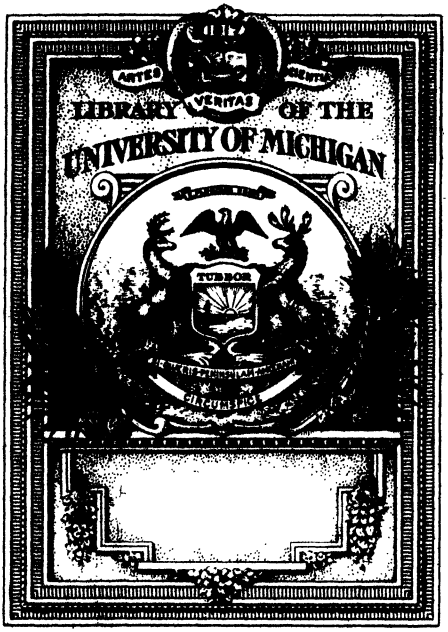
AMERICAN
DENTAL
JOURNAL

12

1914-15



DECEMBER 15. YEAR 1914

The AMERICAN DENTAL JOURNAL

BERNARD J. CIGRAND, M. S., D. D. S.
Editor & Publisher & Proprietor.

DECLARATION:

Devoted to advancing the art and science of dentistry;
Arousing a deeper conception of our duty to the public;
Instilling a broader and more liberal professional spirit;
Aiding in elevating the plane of dental organizations;
Supporting state boards in executing dental laws;
Lending assistance to worthy and ethical practitioners;
Instituting library and college extension courses;
Pointing the way to entertainment, recreation and rest;
Instructing in the science of proper practice building;
Teaching the public the art of dental hygiene.

Address all Correspondence to The American Dental Journal.
Batavia, Illinois.

NEW SERIES.

Price $1.00 per year
Single copy 10 cents

Foreign Subscription
$1.75 per year.

Volume XL
No. 6

Why Pay the Regular Price??

Any Magazine or Book, Dental or General, Can Be Delivered to Your Office by Sending the Regular Price to

Dr B. J. Cigrand, Batavia, Illinois.

(For Ten Years Director of the Chicago Public Library.)

You will receive in CASH 33⅓% of the Commission

A Better Opportunity Was Never Before Offered the Dental Profession

Order the General Periodicals for

1913

and save yourself cash

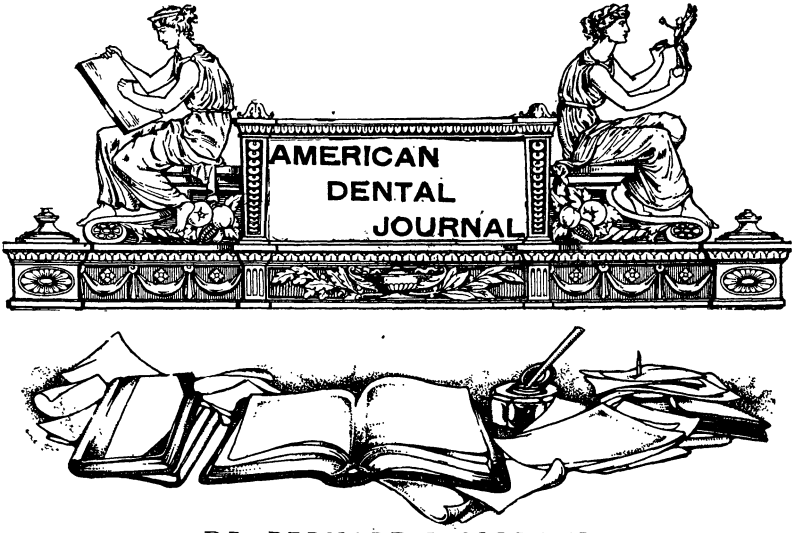
The One Third of the Commission Will Be in an Early Mail.

This Applies to Orders on All The Dental Journals Published in English.

The sooner you send the Regular Price the quicker you get the One-Third Commission and the Reading Matter you Have Ordered.

Vol. 12 ~~Oct. and Nov.~~ Dec. 1914 Nos. ~~4 and 5~~ 6

TABLE OF CONTENTS



DR. BERNARD J. CIGRAND

EDITOR * * PUBLISHER * * PROPRIETOR

ENTERED AS SECOND-CLASS MATTER AT BATAVIA, ILL.

Dec. 15 EDITORIAL AND COMMENT 1914

THE CIVIC DUTY OF THE DENTIST *

The dentist who believes his duty fulfilled after he leaves his office and having discharged his professional services on his patrons, is laboring under the wrong impression regarding his obligation to the community in which he lives. He has other public services to discharge if he is in truth a real professional man, and the state which has granted him his license as well as the college which has conferred upon him the degree of "Doctor of Dental Surgery" expects him to be a valuable element in the department of health and relief of suffering. It is quite true that you can not oblige the dental practitioner to render public service, unless he willingly desires to perfom the task; yet if he

*Annual address of Dr. B. J. Cigrand, President for Fox River Valley Dental Society, delivered at Geneva, Ill., December 21, 1914.

has public spirit, he will cheerfully respond and in this he shows his regard for the state and the college and the community, in that he is conscious of the debt or the obligation he owes to the government and the school which trained him, for his high standard or professional life. Hence the appreciative dentist will not shirk his civic professional duty but gladly aid his community in its campaign against various diseases howering in the midst of the metropolis, city or village, in which he is practicing.

There are innumerable ways in which we may be of great aid in the work of stamping out various contagions and while we may render educational service at the chair, we can in a far more emphatic manner lend our assistance in working in connection with the health departments and in conjunction with the varied public organizations with the purpose of reducing the death rate and assisting in bringing the standard of home and school hygiene up to normal and logical conditions. With this as a proem to my annual address, let me direct your attention to a number of items which directly concern us; while what I am about to suggest, will be new, and may seem both unecessary and even unreasonable, I am satisfied if you will follow carefully what my arguments are, you will speedily agree that I am on the right road regarding what dentists should do if they sincerely hope to be public benefactors—an equation in civil life, which every truly earnest, physician, surgeon and dentist can, and ought to be.

You will pardon me in saying that we are not doing our full professional duty towards the community, when we observe the many careless ways in which health is endangered both at the home, the school and the library. The fault is not so much with the parents, the teachers and the librarians, as it is with the physicians, surgeons and dentists who permit the wrongs to proceed and do not attempt to correct the errors nor do they aim to educate the public, nor those in charge of the rising youth; and in this neglect, on our part, the community continues to travel on the verge of death and none are more to blame than we, who having become commissioners of health are indifferent to the elements which threaten the youth, adult and aged.

There are always new problems arising and each generation is obliged to solve these as they present themselves and it is my hope to enumerate a few dangers which belong with our province to eliminate, and if we resolve to engage in that task, an invaluable civic service will have been rendered and countless lives will have been spared.

We know that the tooth pastes, tooth powders and tooth creams, according to the federal findings are not disinfecting in their character and that they are distinctly cleansers, and that they are intended simply to purge the teeth from debris, plaques and other deposits, and that these cleansing materials are not disinfecting nor antiseptic and that cultures of diptheria, scarlet fever, typhoid fever and tuberculosis can easily be generated within most of these tooth-cleansing materials. Now if this is the fact and there is every reason to believe the government anylysis, then after the mouth has been cleaned by the powder, cream or paste, the next step to take to insure health to the oral cavity of the teeth, is to bathe the entire mouth and dental organs with some liquids, as will assure us of the proper disinfection of the teeth, tongue, palate, constrictor mucles and lips. Having accomplished this we are reasonably sure that the oral cavity has been restored to a normal and disease resisting condition.

In other words, while keeping the teeth clean with the aid of the powders, the creams and the pastes, is well and good, it is not enough to insure safety, but the additional care of washing the mouth, rinsing the teeth and bathing the oral tissues with some safe liquid—mild to the tissues, yet destroying to the bacteria, a fluid of this capacity—and then we can rest assured we have done our part in educating the public in the care of the teeth and surrounding parts. Now we could begin a campaign or propaganda by interesting the teachers, school boards and health boards along these lines and thus arouse a deep public concern in the general oral cleanliness of the entire community. It has been shown in recent reports of the medical profession, that upwards of two hundred diseases are augmented and fostered by a variety oral or dental disturbances. The city of

Valparaiso, Indiana, several years ago learned that dyptheria and scarlet fever were only checked after such pupils as possessed decayed and ulcerated teeth were removed from the schools. And Syracuse, Rochester, Cleveland and other cities too, have observed how these contagious diseases travel from mouths to mouths whose conditions have become weakened by the presence of bacteria. Within the dental cavities and the diseased gums and alveolar process lurk the germs which are destroing the lives of people. It should be the work of some dental society to test out and correct the careless way in which the children in schools are trained to look after their teefh. Remember I am not here criticising the teachers, but rather my own profession for permitting matters to take the course they are, for if we instructed superintendents and teachers they would only be too eager to follow our advice as it would make the school room more healthy and it has been my experience that all teachers and instructors are ever anxious to bring about health begetting policies in the class room.

Every child should be obliged before taking its seat in the school room to repair to the lavatory and gargle and bathe its mouth, thus disinfecting its teeth and surrounding vascular tissues. Regardless of their having used the tooth brush at home, this every morning mouth-bath at the school, will do more to correctioning bad odors of the class room, and restoring healthy normal mouth conditions, than a hnndred lessons on the subject from the textbook on Physiology. It is the doing and not alone instructing that helps to save teeth. Like in the housekeeping the matron or mother may be ever so careful in her advice as to bodily cleanliness, the real test is the seeing that orders are carried out.

It may appear on first hearing that my plans of instituting in the schools a morning and daily mouth bath, would be too expensive a proposition, but you are familiar with the medicinal phase of this problem in your daily practice know full well that the average school could have fluid enough for a daily mouth bath for a week on the enormous outlay of one hundred pennies. One dollar a week which might save the school and the com-

munity thousands of dollars a month. Besides I belief if my plan were brought to the attention of individuals or if the proposition were laid before insurance companies they would be eager to adopt the plan of seeing that the disinfecting fluid or mouth bath be instituted at their expense, for if a child contracts tuberculosis or typhoid or other devouring disease and brings it to the home—it endangers the entire household and is more than likely to transfer the malady to the father and thus with death reaping him, the insurance company is called upon to pay heavy insurance policy. The father is dead, the household has lost a provider, children are thrown upon the community for charitable help, and the insurance company has suffered a loss, all because the pupil at the school has been permitted to race about the schoolroom with poison filled dental cavities. Besides this child returns to the school having outlived the disease, but in borrowing slate pencils and leadpencils, it has inoculated others in the room and the community continued to have a constant reign of disorders, which might at the paltry price of a dollar per week, have been avoided. Hence an once of prevention may prove to be worth more than ten thousand pounds of cure; to translate this line into the American denominations we would say thirty-five cents of prevention is worth fifty thousand dollars of cure. And insurance companies, informed would be glad to aid us. If the Fox River Valley Dental Society wishes to be of public benefit, in a more emphatic way, let them institute this program of home, school and community cleanliness and lend their time and their instructional service along these lines of common weal.

Permit this further thought in the matter of transferring of diseases as enchanced by uncleanly and neglected mouths, the borrowing or loaning of slate or lead pencils should absolutely be forbidden, and if indifference is shown by repeated violation of the school order, the pupils engaged, should be punished, since disregard of this known logic will bring illness and disorders mental and physicsl to school attendants. And what is true of the grammar school is true of the high and the universities, and the same rules can well be made to apply.

Again at the libraries where thousands read and from whence other thousands take books through the medium of the "circulation department" there should be a printed rule pasted into every book, library or school volume, admonishing the readers from moistening their fingers or thumb and turning the leaf from the lower corner of the page, instead of with dry, clean fingers "edge turning" the upper corner of the page. All these public precautions will assist in preserving civic welfare. The expense in establishing these departures will be a trifle as compared with the good which will accrue to the general good. My years as a teacher and long experience as director of the public library at Chicago, has taught me that public ignorance on these fundamental health lines are due to our neglect of professional duty and I do not blame the public half as much as I criticise the physicians, surgeons and dentists for permitting the public to endanger the health of the entire community through practicing methods and carelessly violating rules of hygiene.

As we reach out to aid the public and serve the community in a liberal and unselfish way, we shall awaken civic pride, and naturally our reward will come in the form of people presenting themselves for dental services, because we have taught them the value of a cleanly mouth and the necessity of having all decayed teeth restored to normal masticatory powers. Besides if the children while attending school, are induced to take splendid care of their teeth and mouth, they will naturally have observed not only the comfort of the hygienic mouth but will comprehend the physiological methods of combatting with pathogenic conditions.

President Wilson recently stated that he wished the general defense of the country to rest on the citizen soldiery, rather than a large standing army—this is a splendid American doctrine, but the citizen soldiery will only be available and efficient if the health of the citizens who contemplate to serve is in good form, and since good mastication leads to ready digestion, and it in turn to easy assimilation, it is evident that the citizen soldiery of quality will depend most emphatically upon the in-

dividual dental organization being in exact and orderly condition, thus insuring all the other prime requisites of the healthy, resistful citizen soldier.

COMMENT

The editorial in this issue was your editor's annual address as president of the Fox River Valley Dental Society which has in its precincts seventeen cities; and the press published the address, and a few newspapers commented on its praticability, while the Beacon-News of Aurora, the largest and most influential journal in northern Illinois, published on December 22nd the following editorial:

THE SCHOOL CHILD'S MOUTH WASH

"The Beacon-News takes pleasure in offering favorable comment upon the plea of Dr. B. J. Cigrand, of Batavia, that more attention be given the children's mouths at school.

"Dr. Cigrand is a man of long training and wide practical experience in the dental world and a writer of ability. Whatever he writes or says is the result of his own observation or of some one in whom he has confidence.

"The doctor's address before the Fox River Dentist's Association in Geneva yesterday was listened to by a large number and what he said will be read by thousands. The profit will come in putting into general practice in this section what these men know.

"There is no question among medical authorities that the mouth is one of the most prolific sources of disease that we have. This is especially true in this climate where cataarh is prevalent. The germs already lodged furnish fruitful ground for others.

"Much has been done to prevent the spread of disease among children by putting in drinking fountains. The next step should be the regular mouth wash properly supervised by the teacher.

"The dentists of this section give freely of their services to the school children and one of the most interesting and valuable

features of the annual report of Miss Amy Lowe, the East Aurora school nurse deals with the dental work.

"The Beacon-News would be glad to hear from Dr. Cigrand and his associates upon this subject because it is a most important one.

"There was a time (maybe yet in some localities) where the small boy who says naughty words has his mouth washed out with soap and water. How much more sensible to wash it out with a pleasing disinfectant. When you look at some boys you don't wonder they say nasty words. Anyone would who didn't have better care."

Thanks—Beacon-News! I appreciate your generous support.

The Elgin News, also on the 22nd of December gave the plan this editorial comment:

"The appointment of a public health commission to be known as the Fox River Valley Dental Health board, the object being to investigate and use all preventive measures possible to stamp out diseases of the mouth, took place yesterday at the meeting of the Fox River Dental Society at Geneva. The board is to consist of eight dentists, Dr. B. J. Cigrand of Batavia having been elected to the presidency. The other members of the board will be choosen by the executive committee of the society.

"A campaign to have the care of the teeth become a factor in the education of the children of this district is to be started by the board.

"The new departure of holding an afternoon and evening session was a great success and will probably be permanently adopted."

It affords me pleasure to also express my appreciation to the Elgin News for their kind influence in this civic welfare work.

We must impress dentists that back numbers of THE AMERICAN DENTAL JOURNAL will cost 25 cents per copy. The only way to be sure of better service is to pay $1 and get twelve (12) (xii) copies, or a year's subscription.

ORIGINAL CONTRIBUTIONS

WHAT THE RADIUM RAY SHOWS

By F. T. Molt, D. D. S.

[Dr. F. T. Molt, the dental member of the Chicago Board of Health, read the following article at the Fox River Valley Dental Society, held at Geneva December 21st, 1914. His address was illustrated with about one hundred views showing Radium Ray disclosures of the oral conditions, and the American Dental Journal gladly gives its readers this logical reading matter.—Editor]

Dentistry as a profession has made marked progress in the last fourty years, but more years of school training and a more comprehensive study of medicine and surgery should be required before a doctor of dentistry degree is issued.

Whether we consider our profession as a specialty of medicine or of a distinct entity, it must be acknowledged that it has made most marvelous progress during the past fourty years, said Dr. Molt, and in the last five years so much attention has been drawn to us and our work by the "Oral Hygiene" movement that, with the rather extravagant claims put forth by enthusiasts, we are in danger of "jollying" ourselves into a state of complacent self-satisfaction, which means a development stacis.

The first step that should be taken is the increase of the length of the dental college courses, and the strengthening of the curriculum so that no longer will dentists, mechanically proficient, but sadly lacking in fundamental knowledge, be shunted out as we were to acquire it as best they can, or doing without, practice aimlessly with mediocre success. Consider the fact that during the last 20 years the required course in the best medical colleges has been increased from two to three years, while the dental work has only advanced to a three-years course.

The second step is for those already in practice to "read,

mark, learn and inwardly digest" all the available literature on these subjects; to acquire by study classes or individual study; basic knowledge of such subjects as general bacteriology, vaccine and serum therapy, and physical diagnosis.

The third step is the energizing of the entire profession to such a degree that there will be no necessary step in treatment too arduous to be well done; no part of our work ignored and that doing this we will insist upon receiving fees commensurate with services rendered.

Many dentists of course, have had the advantage of medical training; many others lacking this are so perfecting themselves in knowledge and technique that the pace they make will be strenuous and difficult to follow. The general public, however, is becoming sophisticated and such men as Evans, Hutchinson, Cohen and others are dispelling the vail of mystery that has so long been drawn around all things medical. It is going to be increasingly difficult for the incompetent or indifferent practitioner of either dentistry or medicine to avoid giving value received, and he who fails to render efficient service will in time be automatically eliminated.

I think that you will agree that the points on one or all of which the average general practitioner is lax are these:

1. A lack of knowledge with regard to the progress of classification and general development of the children's mouths, and a tendency to shirk the care of children's teeth.

2. A lack of knowledge of the various stages of pyorrhœa and its treatment, and a failure to recognize or tendency to ignore causative factors and beginning stages.

3. A failure to preach thoroughly and conscientiously the doctrine of preventive dentistry (prophylaxis) and oral hygiene.

4. A tendency to place too much dependence on appearances; to practice conservation to the point of danger to the patient; to maintain or possibly to create foci or infection; and a failure to connect local causes with systemic effects.

I can best illustrate the varied uses of the radiograph by quoting several classes of cases where it is indicated:

CASE I

Patient 35 years of age and lower right molar treated by

his family dentist for over a year without successful result. Whenever the tooth would be sealed up or an attempt made to fill the root canals immediate trouble would ensue. The dentist, however, would not give up so the patient finally became disgusted and changed dentists. The other practitioner had the tooth radiographed immediately, and the picture showing a severely abcessed condition with the distal root badly absorbed, had the tooth extracted and the area curetted. In this case the dentist lost a years' time for which he could not properly expect compensation, and he lost the patient and probably the patient's family.

CASE II

Mrs. H., aged about 45, had occasion while in New York to visit a dentist with regard to a lower right first molar. The tooth was very sensitive to pressure, but without much treatment the dentist went ahead and crowned it. On her return to Chicago her own dentist had the tooth radiographed, showing extensive destruction indicating extraction and curettment, which was done. In this case the first dentist no doubt depended entirely upon the appearance of the tooth and the tissues surrounding it and it is noteworthy that many serious chronic abscess condions involving extensive destruction of process may exist without apparently changing the appearance of the overlaying tissues.

CASE III

Mr. H., aged 35 presented with discharging sinus in the lower left first molar region. He gave a history of having had the missing first molar extracted 16 years before. About two years previously he had had a three tooth bridge swung in to replace that molar without destroying the vitality of the abutments. On the appearance of trouble a week or so before he had returned to the dentist who suspected the death of the pulp in either the 2nd bicuspid or 2nd molar, but upon removing the bridge and attempting to open into these teeth found them both vital.

A radiograph was resorted to which showed in the region of the first molar, no roots from the previous extraction as sus-

pected but an area of carious process extending forward under the bicuspids. A second exposure further forward showed this same sinus and in about the cuspid region an oval body, not at all resembling a tooth, but which it was thought must be one. It was then found that though the teeth were in perfect allignment on the right side, the cuspid was missing, and an operation for removal of the body cleared up the case.

CASE IV

A dentist having a piculiarly formed cuspid to use as an abuttment for a bridge experienced some difficulty in finding the canal but using a reamer opened the tooth up to his own satisfaction and placed the bridge. Subsequent trouble made him turn to the X-Ray, which showed that the cuspid had been mal-posed and the dentist had gone straight up but diagonally entirely through the crown of the tooth. It takes some busy explaining at times to cover up such a case as this. These are most of them cases where the dentist has wasted effort in aimless work. How many times have you built up a marvel of mechanically perfect bridgework, to find that a year or so later the abuttments which you thought strong were tottering. Doesn't it bring our entire profèssion as well as the individual into disrepute, if we are considered such undependable diagnosticians.

Frequently we are called upon to make a decision that will condem or save a first permanent molar for a child. We know the variations in calcification, and that all tables on that subject are generalization. Get an individual record—a radiograph; and when the next child presents itself with a broken central incisor, don't guess at the condition of the root end; make sure.

It is rather surprising how frequently superior lateral insisors are missing entirely as are lower second biscupids in many cases. Before you who extract deciduous laterals for a little chap, or bridge in laterals for a big fellow, make sure, whether or not this is a case where they are missing, for it may be embarassing later to have these laterals come poking into the palate when a little widening of the arch could have brought them into proper place.

Case 4 recently in my care, was that of two boys, brothers, one nine and one thirteen, each one of whom a supernumerary tooth, which caused an impaction of the permanent central and lateral on the right in the older boy and on the left in the younger. Arch widening by the orthodentist and removal of the supernumerary relieved the condition.

Not infrequently cases present where there is difficulty in deciding which one of several teeth may be causing the patients trouble. Why waste time removing fillings, inlays or crowns in two or three adjacent teeth when your radiopraph will point out which is the offender. Often in the old days, every tooth in the mouth was extracted in an effort to relieve neuralgia, which may even then have persisted.

CASE V

Mr. T., aged 35, gave a history of having had all lower teeth except the incisors and left cuspid removed to cure such a neuralgia. The last tooth extracted, the left first biscupid showed an extensive excementosis, and its removal relieved the condition. The patient complained at the time he came to us recently of a neuralgia originating apparently in the upper teeth, and profiting by his past experince he turned to the radiograph for diagnosis. The picture showed an excemontosed lateral and upon its removal the pain disappeared.

CASE VI

Mr. M., aged 20, son of a prominent legislator, had been in the care of nerve specialists for a neuralgia and choreac condition which they dispaired of curing, and the trouble threatened to drive the patient insane. The X-Ray disclosed two badly impacted lower third molars and their removal caused an immediate change for the better and at last reports the case was cured.

CASE VII

Miss C., aged 28, was referred by her employer, who had gotten some insight into the possibilities of the X-Ray while having his own mouth radiographed. This young lady suffered with a very severy recurrent neuralgia. Radiographs of all third molar regions disclosed a lower right third very deeply impacted, and its removal cured the condition.

As I mentioned before, chronic septic foci are being sought as a cause of deforming joint lesions, serious heart lesions and anæmia with its attendant nervous and systemic ills. The old broken down root, the tooth with a discharging sinus, the lame tooth, the loose tooth that you pass by saying "Oh, let it go until it troubles you" *may* be the cause of any one of these conditions, and it is just because we have temporized with these that we are achieving such wholesale condemnation.

It is not such a great while since the profession was exhorted not to extract a single tooth that could not be removed with thumb and finger; and what a multitude of weak, wabbly, unstable roots have been conserved in consequence!

Out of the many cases that have come under my observation two or three seem to be worth quoting.

CASE VIII

Dr. E., a physician, who had been compelled to give up his practice because of an iritis which incapacitated him. He placed himself in the hands of a brother practitioner, who referred him for diagnosis to a dental pathologist, suspecting pyorrhœa. In spite of much archaic bridge-work, however, there was no pyorrhea condition. The dentist suggested the possibility of focal infection around the root ends and the radiograph disclosed three blind abscesses and one tooth with a broach protruding about 3.16 of an inch beyond the apex.

CASE VIIII

Dr. C., also a physician, was suffering from an arthritis involving the shoulder. The radiograph disclosed the fact that the two upper left bicupids which were quite firm and which his dentist was about to crown were involved in an extensive abscess area. Removal of curettment was done and the case is improving.

Dr. Arthur Black in a recent paper asserted that in pyorrhœa were less than 1.3 of the process remains supporting the roots the case is unsavable and extraction is indicated. He advises the use of the X-Ray for determining conditions.

Drs. Rhein, Kells, Ottolengue, Buckley, Gethro and Coolidge have all of them advocated the use of the radiograph

in root filling operations. They make sure that they have thoroughly opened up the canals by inserting a broach and obtaining a picture. Dr. Best of Minneapolis is preparing an interesting paper for the Chicago January meeting on this subject.

No doubt the pictures that I shall show you will bring home the points I wish to emphasize. I have attempted to cover the entire scope of the X-Ray in dentistry; my aim has been to show that its use and able, conscientious work go hand in hand, and that the operator who places sensible dependence thereon, alligns himself with those seeking to practice true conservation.

MY HEALTH AND WORKING POWER TILL EIGHTY

By Charles William Eliot
Priest Emeritus of Harvard University

[It has never been my pleasure to hear or read of the influence which Mr. Eliot exerted on dental education, yet I doubt if any university presentnig the far east did more to raise the standard than this famed educator. Read what he has to say, and know he is an advocate of Oral Hygiene and Dental Science.—Editor]

I must have inherited from my parents what is called a sound constitution. Five of my father's and mother's children lived beyond fourty five, and my oldest sister still survives at the age of eighty-seven.

Looking back on the family habits of my childhood I perceive that the family diet was simple, that the children kept early hours, that our parents took care that we should have exercise in the open air every day, and that we should spend two months in the country or by the seaside every summer. My parents both inherited a comfortable property, and lived in one of the best houses of that day in Boston; but they had no luxurious habits—those sure destroyers of family stocks. They hired horses freely, but had no private stable in Boston. Cleanliness of house and person was strictly observed, but there was no plumbing in the house until I a was a well-grown boy. The advent about 1844 of a coal-burning hot-air furnace, which opened only into the entry and dining room, was a great event.

During my residence in Harvard College as student and teacher (1849-1858) I depended for warmth in winter entirely on an open fire in my room, the entries being as cold as outdoors. Whether or not this prevailing discomfort indoors during the winter had any influence on health is an open question.

At seven years of age I was transferred from a dame school to a private school for boys, kept by a Harvard graduate under Park Street Church opposite the ample Boston Common. At that time the Common was a delightful playground for boys. We lived in the heart of a small city, but had some of the advantages of country life. We played there the single game of ball then in vogue, and hopscotch and marbles in their season; and there we had admirable coasting in winter. Great elms and thrifty lindens were to be seen there, and green grass half the year. One of our sports was running races round the Common on the outer brick sidewalk. The circuit was something over a mile in length, and the competition for the run in the shortest time was keen. Like all my sisters I was sent to dancing-school, taught to ride on horseback, and encouraged to accompany my father on his daily walk.

At ten years of age I was transferred to the Boston Latin School, where the course of study contained nothing but Latin and Greek, a little mathematics and a little ancient history. It offered boys of from ten to seventen years of age no modern language, no systematic training in English, and no science, drawing or music. It gave a strenuous training of the memory through language and literature, forced its pupils to apply themselves to work as well as was possible when the work had little or no interest, and got them handsomely into the Harvard College of that day.

Seeing the grave deficiencies of the Latin School's program my father took pains to procure for me lessons in carpentering and wood-turning, and provided me at home with tools, a carpenter's bench and a lathe. He also furthered a desire I felt—in common with a fellow-pupil at the Latin School—to set type and issue a four-page weekly paper, each page about six inches square. We seldom wrote anything for this paper, but

we did set the type, work the hand press, and correct the proofs. In these various ways I got some good training of eye and hand, for which the program of my school made no provision whatever. Till I was twenty years old I had no practice in drawing, either mechanical or freehand—a serious loss.

In my boyhood the family spent July and August at Nahant. There I was outdoors nearly all the time. There I learned to find mushrooms on the rough pasture lands, to row a boat, and to fish for perch and tautog off the rocks. But the summer experience which I remember with the greatest pleasure was roaming about on horseback, a privilege secured on terms which well illustrate my parents' views concerning my physical education. In the preceding spring I had occasionlly ridden an amiable and sprightly horse named Brilliant. Arrived at Nahant, I asked my father whether I couldn't have Brilliant there. He said, "Yes, provided you will take the care of him" —a proposition I gladly accepted.

For two or three years before I went to college at fifteen, I had much enjoyed two walking sports. The first was visiting, sometimes with my father, sometimes with boy comrades, the places mentioned in Frothingham's "Siege of Boston," as sites of camps, forts or engagements. The excursions took us to the North End, Charleston, South Boston, Roxbury Neck, Cambridge and Somerville—somewhat adventurous excursions for a small boy, when the native boys of those regions were wont to object to the advent of a stranger. The second form of walking was practiced in this wise: Three or four boys would take train for a few miles out of Boston, and then walk across the broken country from six to ten miles to some station on the next railroad, whence they took train for home. This was an instructive and interesting sport for city boys in free afternoons of either spring or autumn, but best in the long days of spring.

My mother took the best accessible advice about the care of her children's teeth and saw that we followed it approximately. Experience has convinced me that dental hygiene is an important department of preventive medicine. Neither of

my parents took enough thought for their children's eyes. The lamp by which I worked winter evenings and mornings used whale oil and had two round wicks, each about as large as an ordinary pencil. Over the flame was a tin shade painted white inside. I was congenitally nearsighted, and the difficulty increased considerably during my childhood and youth, perhaps because of the hard use I gave my eyes on grammars and dictionaries and much ordinary readings. This defective vision cut me off from some desireable sports and enterainments, and prevented me from recognizing my friends on the street, unless they had a characteristic figure, walk or clothing. It has been a serious obstacle all my life, for no oculist has ever been able to procure for me full vision.

While still a pupil in the Latin School I attended a Boston gymnasium where I learned to use the common gymnastic apparatus, such as ladders, parallel bars, the vaulting-horse, the vaulting-bar and swings; and when at last Harvard College acquired a gymnasium, in 1856, I had an opportunity of renewing these exercises after an interval of about seven years. While I was undergraduate I took several series of boxing lessons, and renewed them latter when a college teacher. While in college my chief exercise was walking, for there was then no organized sport for undergraduates and no gynasium.

In 1856, being then a tutor, I joined a new boat club which was mainly recruited among professional students, and was intended to furnish pleasurable exercise to its members, but not to prepare men for races. As I proved in this club to be a strong and enduring oarsman, in the spring of 1858 I was invited to join the Harvard crew of that year, because it had proved impossible to find six undergraduates competent and willing to row. The Harvard crew had been heavily defeated by a Boston crew on the Charles River Basin in the preceding year, and it was unerstood that the crew of 1858 was to use an unstable kind of boat called a shell. Accordingly four undergraduates, Alexander Agassiz and I, made up the Harvard crew of that year. This crew was successful in two regattas on the Basin, winning the first prizes against a large number of crews composed

chiefly of vigorous young men who could hardly be described as amateurs. That spring I was doing a large amount of work as a tuttor, and was building a block of two brick houses in Cambriedge, the plans for which I had drawn, one for my parents who had recently lost all their property, and one in which I hoped to live myself, for I had just been made assistand professor in Harvard College, a promotion which suggested that I could have permanent employment in the University. My rowing was therefore only an agreeable incident exercise, and by no means my main occupation. It should be observed, however, that I was twenty-four years old, and that the sliding seat had not yet come into use. Obviously I possessed a sound muscular and nervous system, capable of much physical work without fatigue, and of occasional severe exertion, but I was not heavy or large-boned, for my normal weight was only from one hundred and forty-five to one hundred and fifty pounds.

I have never been a large eater. I have eaten moderate quantities a good variety of food, for I have always been able to assimilate comfortably any article of food or drink used in the countries where I have lived. I have not eaten so much meat, butter and eggs as most of the men with whom I have been intimate or whom I have met at public luncheons and dinners. This moderation was natural to me and not the result of any peculiar wisdom or lively sense of duty. In the second half of my life I often had to speak at public or semi-public dinners; under such circumstances the only safe way is to eat lightly. It seems to me that people who bolt a large amount of food, as a dog does when he has a chance, do not get so much pleasure out of eating as slower and more moderate feeders. I imagine that my good health has been largely owing to my moderation in eating and drinking and to the habit of daily exercise.

My experience does not furnish a short, explicit prescription for keeping health and working power till eighty years of age, probably because many and various causes have contributed to the result; but I feel safe in affirming that any one who desires to have a like experience will do well to eat moderately,

to sleep at least seven hours a night with windows open, to take regular exercise in the open air every day, to use no stimulants, to enjoy all the natural delights without excess in any, and to keep under all circumstances as serene a spirit as his nature permits. This is the way to win from life the maximum of real joy and satisfaction. Does it seem a materialistic doctrine? It by no means excludes the spiritual influences of abiding love and good will.

EVOLUTION OF THE DENTAL INLAY

BY DR. B. J. CIGRAND

(Continued from Page 267. Nov. 1914 Issue)

'Dr. Carroll, in his casting of aluminum dentures, had essentially all the principles involved, viz., disappearing model, vent for escape or air and compressed air upon a molten mass of metal to induce its flow. The centrifrugal principle seems to perform the same work without vent, and is, therefore, to this extent superior to the Taggart method, and, moreover, much of the difficulty involved in investment is eliminated.

'Today this is new and is taking the profession by storm as did copper amalgam, but, like all new things, it will have place according to its merit as tested by time."

And Editor L. P. Betel writes regarding the first inlay:

'A number of dentists are claiming priority in the making of inlays, but we know of no one making the method known previous to 1887, when Dr. O. H. Simpson, of Dodge City, Kansas, gave an inlay clinic at Topica, Kansas, before the Kansas State Dental Society. If anyone made them in practice before this time we would like to know it.'

"Now Dr. William H. Trueman, of Philadelphia, who has made some investigations pertaining to the priority of a dental inlay, both cast and swage, has this to say on gage 552, July, 1908, *Dental Summary:* 'Who made the first cast inly? Now, what is a cast inlay? We take a plaster model, make from it a sand mould and pour zinc into the sand mould, and get a cast.

We pour led into a bullet mould and get a cast lead bullet. We take a piece of gold or platinum foil or plate, make it conform accurately to the walls of a cavity in a human tooth, and so get a mould into which we fuse or pour gold. Is not that as much a casting as is the zinc duplicate of the plaster model? If it is not as truly a cast inlay as an inlay cast in a closed mould, what is it? Some have taken an impression of a cavity, made from it a mold in investment material, fused gold in the mold, and quickly pressed it down into the mould, and got, if not a cast inlay, what? A few years ago, for a time, a workman in my laboratory made all the masticating portion of gold-shell crowns by fusing sufficient gold, dropping it into the selected depression in a die-plate and quickly pressing it down with the face of a small hammer. If that was not cast under pressure, what shall we call it—drop forging?'

"Continuing, the doctor writes: 'Before me is a little work entitled, 'A Popular Treatise on the Structure, Diseases and Treatment of the Human Teeth,' by J. L. Murphy, London, 1837. On page 200, he has this to say:

'Glass of any color may be bought in the cane ready for use. All dentists ought to be provided with some of the various colors, as it is useful in many instances; thus, in a case where a cavity in front of a cutting tooth, the amalgam stopping is objectionable from its metallic appearance; but, if a small piece of platinum be cut so as to fit the mouth of this cavity, and at each side of this a few catching points be soldered, glass, the color of the teeth, may be used on one side, and the cavity being partly stopped with amalgam, the catching points on the side uncovered by the glass, are pressed into the amalgam firmly, and in the course of an hour or two the glazed platinum becomes fixed by the hardening of the amalgam; this operation, if neatly performed, must give the greatest satisfaction to the patient. It is two years since the idea of trying the experiment suggested itself to me, and since then I have often practiced it, and I can say always satisfactory.'

'Now, if this operation of Mr. Murphy's was not an inlay, what shall we call it? This same gentleman made gold-shell

crowns, and glazed the fronts of them if they were conspicuous. He was not the first, however, to do this. Mons. Mouton, a Paris dentist, describes gold-shell crowns for use in such cases as we now use them, and when placed on front teeth enameled them to the color of the adjoining teeth. His work was published in 1746, and since that date mention of them constantly occurs in dental literature. Lots and lots of things have been forgotten to be rediscovered and claimed as new, but those old records in black and white, which so many look upon as trash, are constantly proclaiming in the words of the wise man, 'There is nothing new under the sun.' The moral of it all is this: We should not be so much wrapped up with the present as to forget the past. Many a good idea, long discarded, modernized, may prove as good as new.'

"The cheoplastic idea was brought prominently before the profession in 1856 by Dr. A. A. Blandy, and doubtless his metal and process would have received more attention, but the hard rubber process came to light about this time, and its simplicity of manipulation, together with its cheapness, crowded from the dental horizon both gold and cheoplastic work. Dr. Blandy, in his patents named his process the 'cheoplastic, or pouring of metal made plastic by heat.' He left the United States in 1862, and this ended the employment of this cast method. Following Dr. Blandy came the discoveries and inventions of Drs. Wood, Weston and Watt.

"But the theme of metallo-plastic work is especially interesting to us, as it relates to casting a metal under pressure. The most extensive labors in this direction came from the hands of Dr. James B. Bean, who prior to 1869 had accomplished great results in casting aluminum under pressure. While the most positive and satisfactory results in casting both gold and aluminum was by the method advocated by D. C. C. Carroll, who, more than twenty years ago successfully cast under pressure aluminum, his process being to force the liquid metal into the intended form by employing air pumped into the receiving chamber by means of a dental foot bellows.

[To be continued]

NEW TOOTH FOR CROWN AND BRIDGE CASES

By Dr. B. J. Cigrand, M. S., D. D. S.

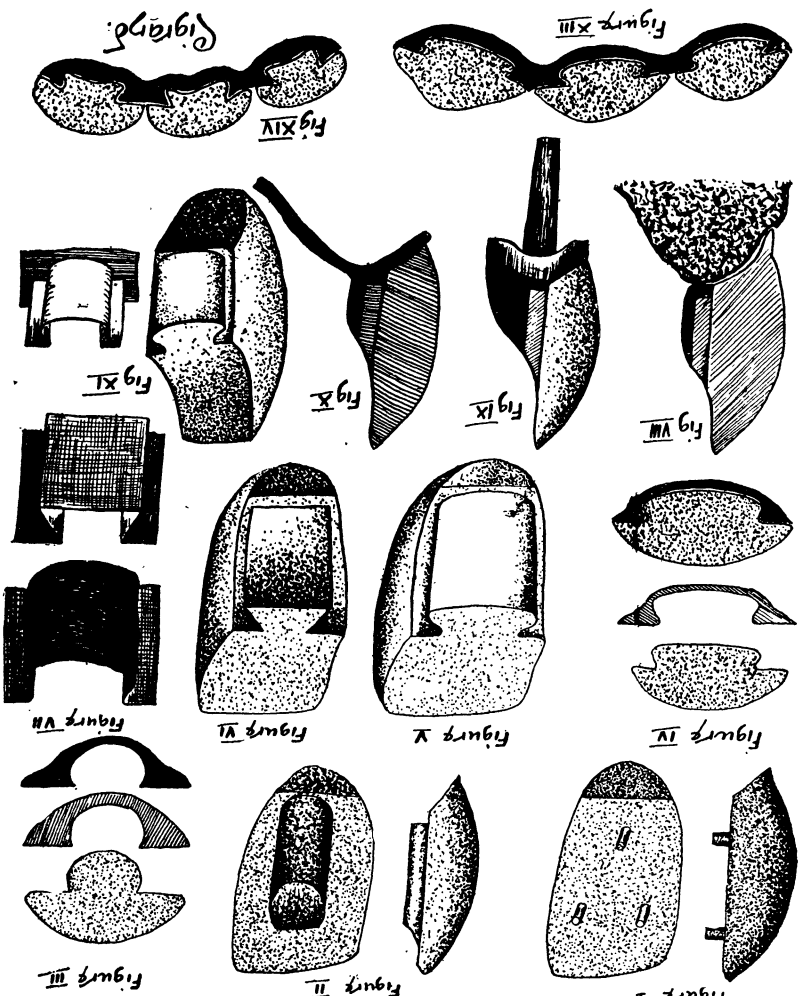
At the Fox River Valley Dental Society I gave a clinic demonstrating the tooth form which I believe has fundamental principles deserving of prosthetic application.

The following is what I wrote in chapter XXXI of my "Progressive Course in Dental Prosthesis" published by Frank & Young, 1906—and the tooth is what I have since added to the chapter:

It is my purpose to suggest a method of making repair work of both crown and bridge work simpler, or, better still, to show a device or tooth form which will prove sufficiently strong to resist the stress of mastication, hence dispense with the troublesome proposition of repair work. In a college clinic a class demonstration the forms were made of vulcanite to illustrate the principle and show the means of attachment as well as method of construction. At this time I have the teeth in the true or porcelain form and a few test cases indicate that this method can be resorted to in certain cases.

The first specimens I formed by taking an ordinary plate tooth, cutting off the platinum pins and baking a triangular form of porcelain to the palatal surfaces of the plate tooth. Later I purchased a porcelain stick, sold by S. S. White Dental Manufacturing Company, for porcelain inlay work and smoothed one portion of the stick and cut it off to correspond to length of my porcelain tooth, as shown in Figs. 1 and 2. I soon learned that this would require too much gold to make the case and my porcelain would be weak where the stick of porcelain was added, and baked a tooth of the exact pattern desired, making the dovetail more pronounced, and thus adding more strength to the porcelain. In addition to this I formed a triangular portion flat and this gave me better opportunity to make the case restore the lingual contour of the anterior six teeth. (Figs. 3 and 4.)

The bridges, as mostly constructed, have a shapeless lin-



THESE BACKINGS MAY BE CASTED AND THEN SOLDERED

gual aspect, generally a smooth curve of gold, and no attempt is made to reproduce the palatial surfaces of these teeth, and this contour is an attribute of comfort to the tongue, as shown in Fig. 8.

Fig. 9 gives a view of this tooth when used as a Richmond. The great disadvantages of the old Richmond, namely, frail facing and great bulk of gold solder, are here completely overcome. The porcelain is in bulk—always assurance of strength, and the gold sparingly employed, yet yielding all the necessary support, as illustrated in Fig 8.

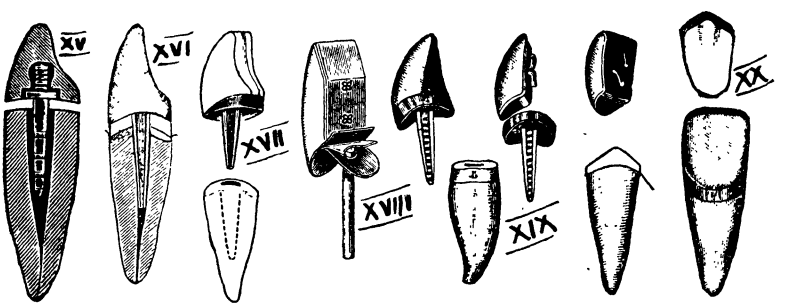
In the event this tooth is required on a partial gold plate, the construction is also simple, as clearly shown in Fig. 10.

Even the short-bite variety, which so completely taxes the ingenuity of the prosthetist, is readily overcome, as is demonstrated by Fig. 11. The anchorage may seem weak, but no ordinary mandibular force will be able to fracture it. Porcelain is able to resist great strain, weight, or even force, when proptected in bulk. A given amount of porcelain is strong in just the ratio to its globular conformity. The same amount of porcelain in wafer form would stand but little mechanical abuse, while if rolled into marble form it could be placed into a rifle or cannon and be forced through wood or metal. Just so with the anchorage in the case cited. The porcelain is practically in cubic form and can resist the force of mastication, without fear of dislodgment or fracture. This tooth is especially adaptable in cases of long ridge lap as indicated in Fig. 8 or 11.

When these teeth are ready to be soldered they appear as Fig. 13 and when soldered as Fig. 14. By this method the porcelain tip or incisal is left free and does not become muggy or cloudy by the metal back, usually made of gold, though platinum, too, is used. The methods which have metal backings all have the demerit of interfering with the beautiful and nature-like transparency or translucency of the normal tooth. This dull and lifeless artificial tooth, with metalic armor, destroys the æsthesia of the finished case. (Figs. 13, and 14 illustrate.) This is one reason why dentists prefer the Davis, Logan and Brewster crowns. Figs. 15, 16, 17. They have no metalic backing.

A method calculated to give you comparative shade of teeth is to get the shade by holding the gold or platinum behind the selected facing; you can then have a faint idea as to the appearance the facing will have in the completed crown or bridge. If this trifling step is overlooked or pronounced unimportant, the penalty of disregarding small things or details will appear as a great error in the final product.

By the method I here advocate the tip of the porcelain tooth is not veneered by metal at the surface, where the greatest vital appearance is required. It matters little what you place behind the thick and strong portion of the tooth, as the bulk of the porcelain precludes the metal reflection, but at the incisal edge,



where in all teeth the porcelain is thin, the vital appearance—that wax-like shade—must be conserved. Hence, by the construction of the tooth I suggest this all important phase is brought to a simple problem.

Aside from the foregoing argument in favor of leaving the porcelain unobstructed by metal, the next point—not secondary at that—is the avoidance of a gold tip making its appearance. Many a beautiful and perfectly constructed bridge loses its artistic touch by the addition of the gold tip or metallic incisal edge. (Figs. 18, 19 and 20.) The patients rebel against their use, though the dentist quiets their further discussion by the remark "that the gold edge shields the porcelain and saves the entire structure." The statement of the operator is doubtless correct, yet it does not satisfy the patron, since it is an emblem of artifice, and that token of anti-divinity is always an objection.

People of this day and generation desire naturalness and the divine model is constantly on the pedestal.

Patrons of today prefer to retain natural dental appearances, and dislike very much to be obliged to exhibit the too brilliant gold crown. Nature in this particular can not be improved upon, and the practitioners who attempt to add to the beauty of the patient by inserting either a colossal gold filling or a glittering gold crown are certainly blind to the laws of harmony and æsthesia. The method which will permit of a true reproduction of natural appearance and usefulness is indeed the method that will invoke admiration; and if we ever keep in mind lines from Hare, "Art is the work of man under the guidance and inspiration of a mightier power, Nature," we will ever be inspired to copy and design after nature, the soul of God, and can not go far astray from what is right and enduring. And in response to the love which we hold for nature we should be opposed to any unnecessary destruction or uncalled for alteration in shape, color or size of the normal dental organs; and any method which will approximate nature will be welcomed by the better elements of our communities.

Of course, the porcelain tooth, by the method I suggest, does not go through the flame of soldering. The teeth are cemented or vulcanized into their respective gold pockets, which are of unusual size; the dovetail on all teeth being uniform, to correspond with the respective tooth form.

The process of constructing a crown by this method may at first sight appear difficult and even intricate; but I assure you, upon closer acquaintance with the process it will prove to be simple indeed, and appeal to those who intend to avoid the consequences of a repaired crown. By this method we avoid the great display of gold accompanying the "all gold tip," and this, you will observe, is indeed an approach to natural ideals, and it is furthest from my mind to pose as an inventor. It is immaterial, in fact, who has wrought desirable changes; the only question which concerns mankind is, "What worth has the departure; does it lend comfort and assure progress?" If it has these accompaniments, they are the only elements which appeal

to humanity. Personally, we all seek to merit for our new ideas, our inventions and improvements, and I dare say our profession liberally credits those who have aided in its rapid evolution. The duplication of inventions, their gradual perfections, is a most interesting theme; the employment or the principle of dovetail is one antedating our present Christian calendar. The use of it in mechanics and dentistry is manyfold and I do not intend to convey the impression that its introduction into prosthetics is original with me, though I believe that its present application in removable porcelain teeth for bridges and gold dentures suggests new possibilities. Hence I have hoped to be understood as not endeavoring to elicit the inference that this deviation from the old path is purely original with me, for few inventions are, since the underlying principles of nearly all which we call new have been understood and brought into practicability at some previous time. For inventions which we think entirely original are but a modification of applied principles. In a liberal profession, such as our calling is, it should not be the purpose of any individual member to attempt to attain prominence by seeking to rob from others that which will assist in bringing to him unworthily even the slightest tribute, and it is in this spirit of fairness that we invite all practitioners to contribute ideas or methods to these chapters. The biscupids and molars will be constructed soon.

CHIEF PAUL'S GOLD TOOTH

[Continued from page 285 of the December issue.]

"Running my eye over them carefully, I whispered to the old dentist; 'Don't get too gay with these savages if you're not out for trouble.

"'Shut up,' he retorted.

"But one among the whole gang had a pound or two of spare fat growing to him. That was the chief himself. He approached close to the dentist, with his grin, and his gold tooth, and his couple of pounds of fat, as evidence of his exalted job.

"The old man paid no attention to him. Just launched right out with a ten-minute-talk on modern dentistry. By way of introduction he gave them the biological reason for teeth, following with a lot of rapid oratory that made them brace up and take notice. Concluding with a flourish of words that sounded like the rattle of alarm drums, he raised his arm suddenly and trust it toward Chief Paul.

" 'There's an up-to-date man for you,' he cried loudly.

"The circle of sember eyes turned slowly upon the chief.

" 'Come here, show that tooth of yours,' went on the old man. 'Let the people see it.'

"The chief stepped right up; he savyed that part of it. 'Me gotum tooth all same white man S-e-a-t-l'. Hi-you skookum,' he grunted, opening his mouth and shoving his face close up to the dentist.

"Silence fell upon all—myself and Jack included, when the old dentist began closely to examine it—to feel it with his fingers.

"Concluding the inspection, the old man wiped his fingers carefully on his pants. Then violently shoved the chief back into the crowd. 'That tooth's no good, you old fool,' he cried loudly. 'Jump! Get!'

"And for five solid minutes he stormed at the puzzled and chuckling natives.

"But Chief Paul bounded excitedly back again.

"You no savvy, you no savvy, megotum good tooth, megotum hi-yu tooth all same white man S-e-a-t-l', he howled, beating his hands together and dancing round and round, like a kitten chasing its tail.

"The hunters grunted merrily; they were tickled—and so was I. Better to have a savage funny than fierce.

"But the old dentist, with uplifted arm, thundered: 'Cut that out, you brown whelps; or something will happen right now!'

"And every man of them stiffened instantly.

"The chief stopped his antics all of a sudden, too, and tried to crawl back into the crowd. But the dentist collared him.

[To be continued.]